Fish and Wildlife Coordination Act Report

on

Bixby Creek Local Flood Protection Project

Tulsa District
U.S. Army Corps of Engineers

Prepared by Richard Stark
Oklahoma Ecological Services Field Office
U.S. Fish and Wildlife Service
Tulsa, Oklahoma

June 2000

TABLE OF CONTENTS

List of Tables

List of Figures

Introduction

This report provides the U.S. Fish and Wildlife Service's (Service) evaluation of fish and wildlife resources likely to be affected by the proposed Bixby Creek Local Flood Protection Project. It is intended to accompany the U.S. Army Corps of Engineers (Corps) report on the feasibility of this project. This report includes the Service's evaluation of fish and wildlife resources under existing conditions, projections of changes that would occur following implementation of the proposed project, mitigation measures, and the position of the Service.

The Service has prepared this report under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) in fulfillment of the reporting requirement set forth in Section 2(b) of the Act. The Oklahoma Department of Wildlife Conservation (ODWC) reviewed and concurred with the report as indicated in Appendix A (attached letter from Julianne Hoagland dated May 30, 2000).

Description of Area

The proposed project would modify a large portion of Bixby Creek to reduce the flooding frequency of businesses and residential properties in the City of Bixby, Oklahoma by accommodating the 5- to 10-year stormwater event (Andy Comer, Pers. Comm.). The modifications would begin in the northwest corner of the NE/4, Section 23, T17N, R13E (151st Street bridge), and extend through Section 24, T17N, R13E, (crossing Memorial Dr., River View Ave., and Mingo Rd.) to the confluence of the Arkansas River in Section 19, T17N, R14E, Tulsa County, Oklahoma (Figure 1).

This portion of Bixby Creek is an intermittent stream bordered by wetlands, agricultural land, and bottomland hardwoods. The Service's National Wetland Inventory map (NWI) indicates that the wetlands in the project area include two palustrine open water, one riverine intermittent, and one palustrine forested wetland in Section 23; one riverine intermittent, and one palustrine forested/scrub shrub wetland in Section 24; and one riverine intermittent wetland in Section 19. Total existing wetland acreage within the project area is 8.18 acres (Table 1).

Project Description

The proposed project would result in a grass-lined channel with a bottom width of 24 feet from 151st Street to Memorial Avenue, and 50 feet from Memorial Avenue to the confluence of the Arkansas River. The new channel would also consist of a 10 foot wide concrete low flow channel on the bottom for maintenance. There would be two reinforced concrete box culverts, several drop inlets, one drop structure, two water crossings, and three leg channels with riprap draining into the main Bixby Creek channel. The proposed alignment of the modified channel follows the existing channel alignment except for some straightening and realignment in the first mile (Figure 2), and some realignment in the lower reach near the Arkansas River (Figure 3). The side slopes of the channel would be 4 horizontal to 1 vertical.

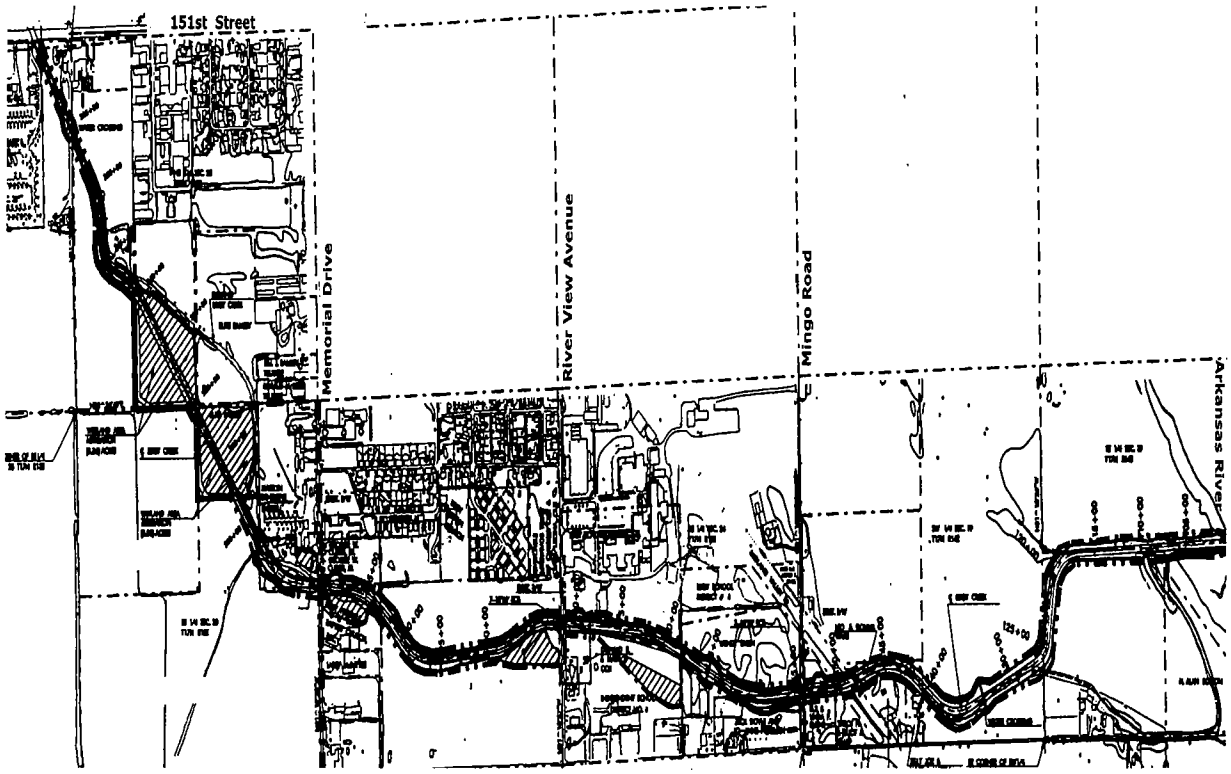


Figure 1. Proposed channel where blue represents the existing channel location and green represents the proposed realignments.

Fish and Wildlife Resources Without the Project

Bixby Creek within the project area provides habitat for many species of wildlife. Herons, egrets, waterfowl, and several species of songbirds, reptiles, and amphibians inhabit this portion of Bixby Creek and the associated palustrine open water, palustrine forested, palustrine scrub shrub, and riverine intermittent wetlands. The palustrine forested and scrub shrub wetlands also provide habitat for white-tailed deer, beaver, fox squirrel, racoon, kingfishers, and woodpeckers, and serve as a habitat corridor for some species of wildlife such as white-tailed deer, coyotes, and bobcats.

Threatened and Endangered Species

The federally-listed threatened bald eagle is known to occur along the Arkansas River in Tulsa County. Bald eagles winter along the Arkansas River and utilize large trees for perching and roosting. Although there are no known bald eagle nests in the project area, suitable perching and nesting trees exist near the confluence of Bixby Creek and the Arkansas River, and nesting does occur along the Arkansas River near south Tulsa.

Project Impacts

The proposed channel would replace approximately 3 miles of natural channel, and result in the loss of wetlands and riparian/bottomland hardwood forest habitat. The proposed alignment of the modified channel follows the existing channel alignment except for some straightening and realignment in the first mile, and some realignment in the lower reach near the Arkansas River. The straightening and realignment in the first mile would involve filling in the original abandoned alignment (Figure 2). The realignment near the Arkansas River would pass through an existing field, and would serve to prevent the loss of riparian habitat along the existing channel. This realignment would, however, result in the loss of riparian habitat at the confluence with the Arkansas River (Figure 3).

Table 1. Location and size (acres) of existing wetlands associated with Bixby Creek within the project area.

Wetland Location	Acres
151st Street to Memorial Drive	4.5
Memorial Drive to River View Ave.	2.07
River View Ave. to Mingo Road	1.61
Total	**8.18**

Discussion/Mitigation/Recommendations

The Service's Mitigation Policy (Federal Register 46(15):7644-7663) provides guidance for formulating measures to eliminate, reduce and offset environmental impacts. These guidelines follow the sequenced approach to mitigation presented in the Council on Environmental Quality's National Environmental Policy Act (NEPA) regulations (40 CFR 1508.20). The mitigation definition found in the NEPA regulations consists of five sequential steps: 1) avoiding the impact altogether by not taking a certain action or parts of an action; 2) minimizing impacts by limiting the degree or magnitude of the action; 3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; 4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and 5) compensating for the unavoidable impacts by replacing or providing substitute resources or environments. The primary focus of the Mitigation Policy is mitigation of losses of habitat value, with the degree of mitigation corresponding to the value and scarcity of habitat for selected evaluation species to be impacted by a proposed project. The Service's mitigation policy for wetlands is No Net Loss.

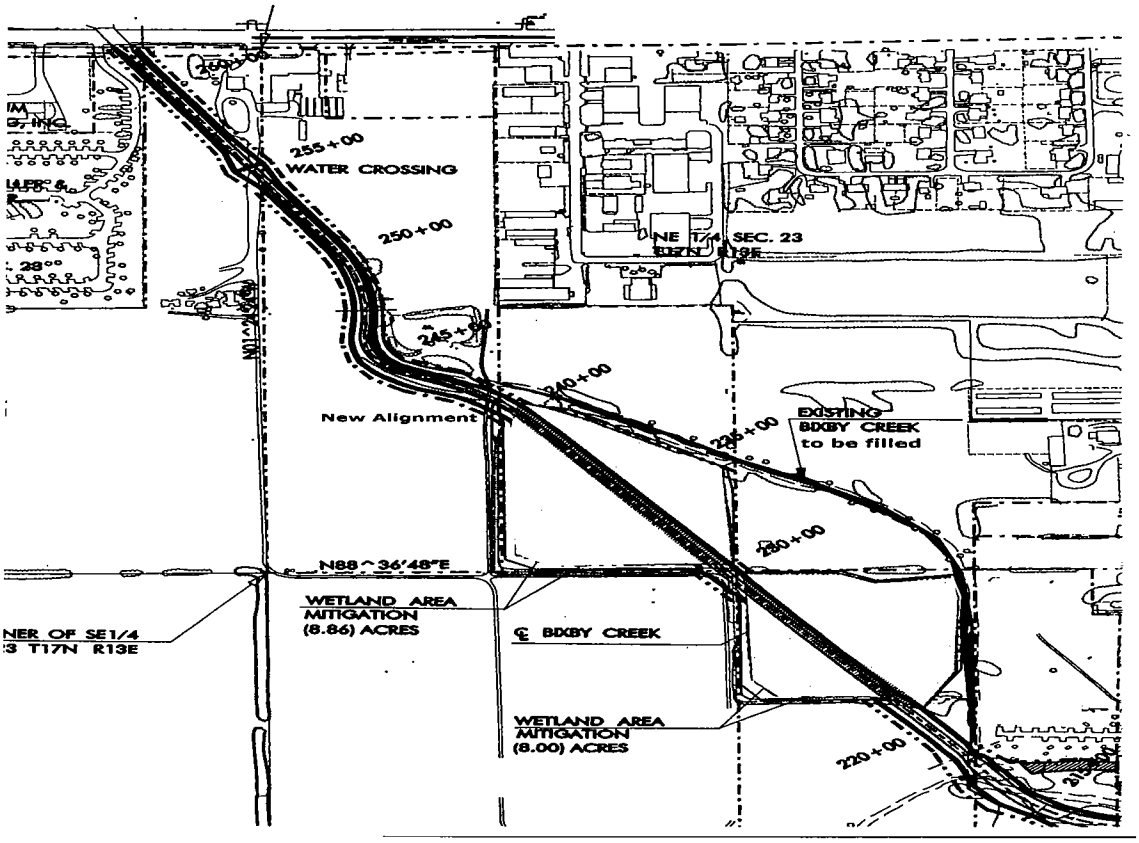


Figure 2. Portion of Bixby Creek to be straightened and realigned (green), area of existing creek to be filled (blue), and mitigation areas within first mile of project (yellow).

A mitigation plan for the loss of the natural stream, associated wetlands and riparian/bottomland hardwood habitat has been developed. This plan consists of creating two respective areas of excavated wetlands of 8.00 and 8.86 acres near 151st Street (Figure 1 and 2), and preserving existing off-stream wetlands contiguous to the channel (Figure 4). The Service recommends preserving these wetlands through deed restrictions, and requests the opportunity to review a detailed mitigation plan. The Service also requests that the City of Bixby contact this office about the potential for an outdoor classroom through the Service's Partners for Fish and Wildlife program for the wetland south of Bixby High School.

The Planning and Environmental Analysis branch of the Corps and the Service has suggested realigning a portion of the proposed channel between Memorial Drive and River View Avenue north of the existing channel to avoid the loss of a stand of bottomland hardwoods (Jerry Sturdy, Pers. Comm.). Additionally, the Service recommends planting a variety of native tree species such as hackberry, sycamore, pecan, black willow, green ash, and bur oak at the top of the channel to help improve soil strength and stability, and along the sides of each of the proposed excavated wetlands to add diversity and wildlife habitat value to the project, and preserving the mature stand of bottomland hardwoods near the proposed realignment in the lower reach (Figure 3).

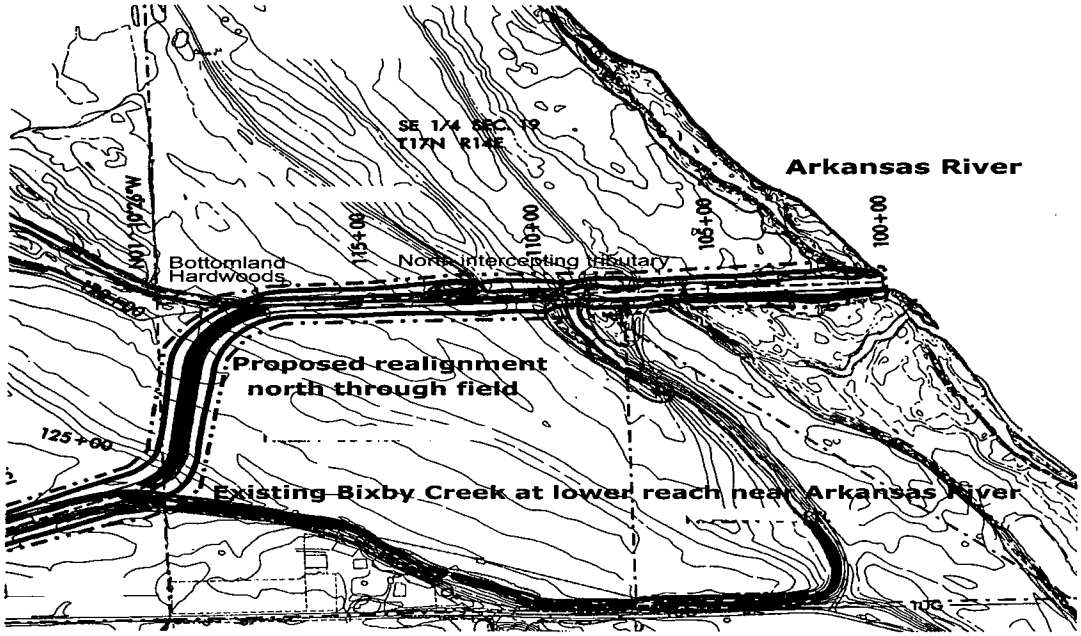


Figure 3. Realignment of existing channel in the lower reach near the Arkansas River (green) and location of bottomland hardwoods recommended for preservation.

It is incumbent upon the Corps to determine if the project adversely affects the bald eagle. If the project is determined to adversely affect this species, then formal consultation under Section 7 of the Endangered Species Act will be required.

Summary

The proposed project is to modify a large portion of Bixby Creek to provide 5/10 year flood protection for the City of Bixby, Oklahoma. This portion of Bixby Creek is an intermittent stream bordered by wetlands, agricultural land, and bottomland hardwoods. The area provides habitat for many wildlife species including herons, egrets, waterfowl, white-tailed deer, beaver, fox squirrel, racoon, kingfishers, woodpeckers, coyotes, bobcats, several species of songbirds, reptiles, and amphibians, and the federally-listed threatened bald eagle.

It is incumbent upon the Corps to determine if the project adversely affects the bald eagle. If the project is determined to adversely affect this species, then formal consultation under Section 7 of the Endangered Species Act will be required.

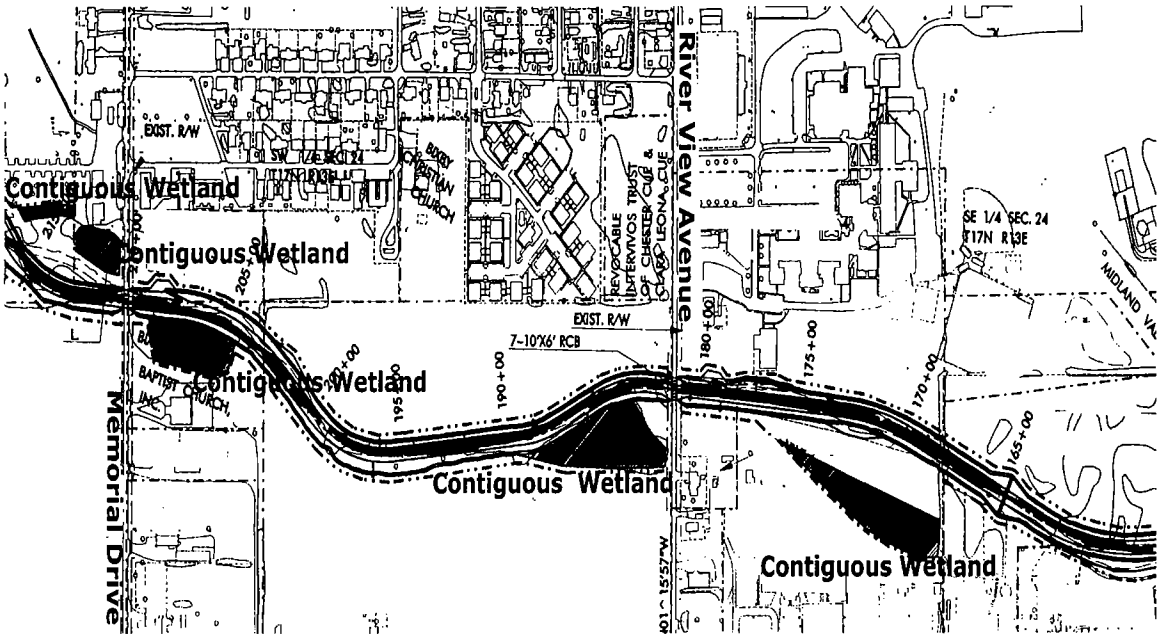


Figure 4. Existing off-stream contiguous wetlands to be preserved.

The proposed channel would replace approximately 3 miles of natural channel, and result in the loss of wetlands and riparian/bottomland hardwood forest habitat. A mitigation plan for these losses has been developed, and consists of creating two areas of excavated wetlands of 8.00 and 8.86 acres respectively near 151st Street, and preserving existing off-stream wetlands contiguous to the channel. The Planning and Environmental Analysis branch of the Corps and the Service has suggested realigning a portion of the proposed modified channel between Memorial Drive and River View Avenue north of the existing channel to avoid the loss of a stand of bottomland hardwoods. The Service also recommends preserving the mature stand of bottomland hardwoods near the proposed realignment in the lower reach, and planting a variety of native tree species at the top of the channel to help improve soil strength and stability, and along the sides of each of the proposed excavated wetland basins to add diversity and wildlife habitat value to the project. The Service believes the mitigation plan including the suggested realignment, the preservation of the stand of bottomland hardwoods near the proposed realignment in the lower reach, and the recommended planting of native tree species adequately compensates for the riparian and wetland habitat value losses attendant with the proposed project.

OKLAHOMA

FRANK KEATING, GOVERNOR
GREG D. DUFFY, DIRECTOR

DEPARTMENT OF WILDLIFE CONSERVATION

1801 N. Lincoln P.O. Box 53465 Oklahoma City, OK 73152 PH. 521-385

May 30, 2000

Jerry Brabander
U.S. Fish and Wildlife Service
222 South Houston Ave. Suite A
Tulsa, OK 74127

Subj: Bixby Creek Draft Fish and Wildlife Coordination Act Report

Dear Mr. Brabander:

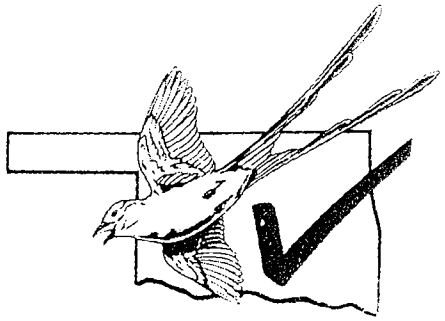
This responds to the Draft Fish and Wildlife Coordination Act report prepared by your office in response to a proposal by the U.S. Army Corps of Engineers to modify a large portion of Bixby Creek for flood protection for the City of Bixby, Oklahoma. The ACOE project would affect approximately three miles of Bixby Creek from the northwest corner of the NE/4, Section 23, T17N, R13E and extend through Section 24, T17N, R13E to the confluence of the Arkansas River in Section 19, T17N, R14E, Tulsa County, Oklahoma. The project will result in the loss of wetlands and riparian forest habitat. The mitigation plan developed calls for the creation of two roughly 8 acre wetlands and preserving the mature stand of bottomland hardwoods near the proposed realignment in the lower reach.

We have reviewed the draft Fish and Wildlife Coordination Act report and it appears to be a thorough evaluation of the potential impacts to fish and wildlife populations which could occur as a result of the Bixby Creek Local Flood Protection Project. We concur with your recommendations for preserving the wetlands through deed restrictions. We also concur with the ACOE's recommendation to realign a portion of the proposed modified channel to avoid the loss of a stand of bottomland hardwoods in the lower reach. Mature bottomland hardwood habitat is one of the most valuable wildlife habitats in eastern Oklahoma and it is difficult to replace once destroyed. Several wildlife species of special interest use this type of habitat including, river otter, eastern wild turkey, wood duck, prothonotary warbler, yellow-throated warbler, and swamp rabbit. We agree with your assessment that the mitigation plan, including the recommendation to preserve the stand of bottomland hardwoods near the proposed realignment in the lower reach, adequately compensates for the riparian and wetland habitat value losses caused by the proposed channel.

We appreciate the opportunity to review and provide comments on this report. We agree that a thorough review of the detailed mitigation plan is necessary to evaluate the potential mitigation benefits to be derived from the two created wetlands and preserving existing off-stream wetlands contiguous to the channel. If you have any questions regarding this letter, please contact me at (405) 521-4616.

Sincerely,

Julianne Hoagland
Natural Resources Biologist



Search for the Scissortail on Your State Tax Form